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Elaphoglossum discolor (Kuhn) C.Chr. (Dryopteridaceae, Polypodiales, Monilophyta): first record for the state of Mato Grosso do Sul, Brazil

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Abstract: *Elaphoglossum discolor* was recently discovered and collected on the Urucum plateau of the Brazilian state of Mato Grosso do Sul, lying in the western outskirts of the Pantanal flood plain. This is the southernmost distribution of *E. discolor* in Brazil.

Key words: ferns, Urucum plateau, Pantanal wetlands, southernmost recorded distribution

Dryopteridaceae Herter is a fern family of pantropical distribution (Tryon and Tryon 1982) comprising 30–35 genera and about 1,700 species, most of which (ca. 70%) belonging to one of the four richest genera: *Ctenitis, Dryopteris, Elaphoglossum* e *Polystichum* (Smith et al. 2008). In Brazil Dryopteridaceae includes ca. 170 species mainly distributed in South and Southeastern regions, with 40% belong to the genus *Elaphoglossum* (Prado et al. 2015).

Elaphoglossum Schott ex. J. Sm. is one of the most diverse genera of ferns, comprising ca. 600 species, and is mostly distributed in cloud forests (Moran 1995; Vasco and Moran 2015). The center of diversity for the genus is the Neotropic region, which includes three-quarters of all species (Mickel and Smith 2004). More specifically, the Andean regions between Colombia and Bolivia have the highest number of *Elaphoglossum* species (Tryon and Tryon 1982). In Brazil, about 85% of *Elaphoglossum* species occur in montane habitats of South and Southeastern regions (Windisch and Kieling-Rubio 2015).

Smith et al. (2008) reported that many *Elaphoglossum* species are yet to be described, which is supported by the recent publications of Melo and Salino (2011) and Kieling-Rubio and Windisch (2012), indicating that the diversity of this genus in Brazil may be significantly higher than currently recognized.

The present study reports the first record of *Elaphoglossum discolor* (Kuhn) C.Chr. for the state of Mato Grosso do Sul, Brazil.

The present study was carried out in the Urucum plateau region (19°12′1.20″ S, 057°36′14.54″ W), western outskirts of the Pantanal flood plain, Mato Grosso do Sul state. The examined material (Brazil: Mato Grosso do Sul: Corumbá, July 2012, Morro São Domingos – Maciço do Urucum, *C.R.Lehn*, 1203) was deposited in the herbarium CGMS of the Universidade Federal de Mato Grosso do Sul and duplicates were sent to the herbarium SP in the Instituto de Botânica de São Paulo. The material was sent for expert identification.

Elaphoglossum discolor is a herbaceous species, with an ascending rhizome clothed in linear-lanceolate scales, sterile fronds ovoid-lanceolate with maximum size to 25 cm and fertile fronds lanceolate-shaped with maximum size to 35 cm (Figure 1). According to Brade (1965), the closest relative of *E. discolor* is *E. riparium* Brade, which occur only in Goiás state in the central plateau of the Brazilian shield and is distinguished from *E. discolor* by equal-sized sterile and fertile fronds.

A total of eight individuals were found in a cerrado *sensu stricto* on ironstone outcrops, distributed at two points (19°12′01.20″ S, 057°36′14.54″ W and/ 19°12′06.46″ S, 57°36′19.46″ W) at a mean altitude of 825 m above sea level.

Previous occurrence records for *Elaphoglossum discolor* were restricted to the Amazonian forest in the states of Acre, Amazonas, Roraima and Mato Grosso (Brade 2003; Windisch and Kieling-Rubio 2015). According to Pott et al. (2011), the Pantanal region is influenced by its surrounding phytogeographical provinces (of which

Figure 1. *Elaphoglossum discolor* (Kuhn) C.Chr. in natural conditions on the Urucum plateau, western outskirts of the Pantanal flood plain, Corumbá, Mato Grosso do Sul, Brazil. Photo: Carlos Rodrigo Lehn.

the Amazon forest is obviously important), which could explain the establishment of *E. discolor* in the area. The headwaters of several tributary rivers of the Rio Paraguai (the main river of the Pantanal basin) are located in the outskirts of the Amazon basin, creating a potential corridor for Amazonian species throughout the Pantanal (Pott et al. 2011).

Besides the physiognomic distinction between the Amazon and the Pantanal floodplain (mostly savanna-like formations), *Elaphoglossum* species commonly occur in primary forests and are very sensitive to habitat change (Tryon and Tryon 1982). However, some *Elaphoglossum* species are resilient to anthropic disturbance, e.g., the *E. discolor* populations of the present study being observed in areas affected by mining. The western outskirts of the Pantanal floodplain, including the Urucum plateau represent the area with most inventories of ferns and lycophytes in Mato Grosso do Sul state, totaling 110 species (Assis 2007). The present study reports the Urucum plateau as the southernmost distribution of *E. discolor* in Brazil (Figure 2).

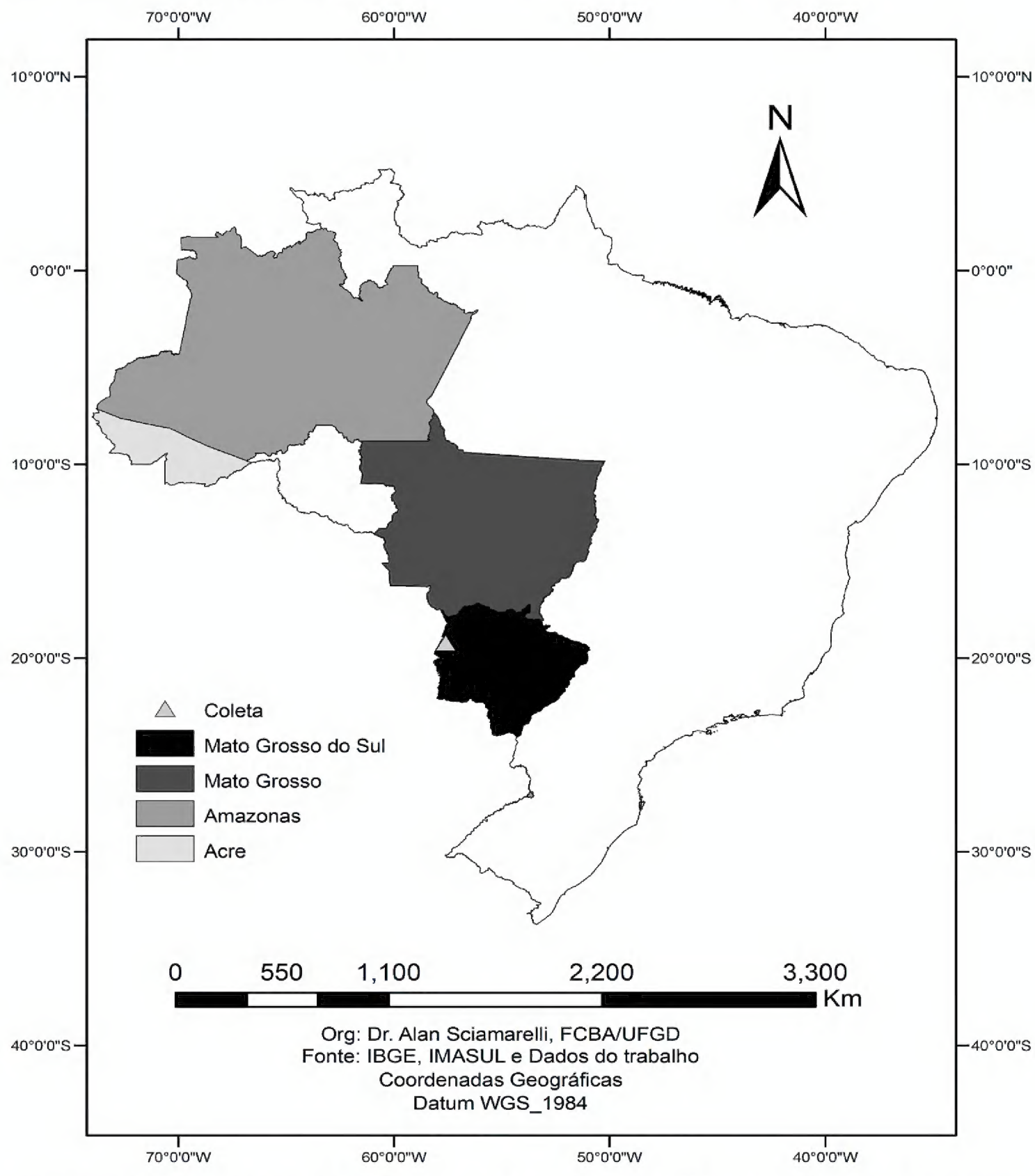

Figure 2: Distribution map of *Elaphoglossum discolor* (Kuhn) C.Chr. in Brazil, showing the southern limit of occurrence in the Urucum plateau, Mato Grosso do Sul, Brazil.

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LITERATURE CITED

Assis, E.L.M. 2007. Pteridófitas da Borda Oeste do Pantanal sul-matogrossense, Brasil. Dissertação. Universidade Federal do Paraná, Curitiba. 200 pp.

Brade, A.C. 1961. O gênero *Elaphoglossum* (Polypodiaceae) no Brasil. Rodriguésia 36: 21–48.

Brade, A.C. 1965. Algumas espécies novas do gênero *Elaphoglossum* (Polypodiaceae) da Flora do Brasil. Arquivos do Jardim Botânico do Rio de Janeiro 18: 17–23.

Kieling-Rubio, M.A. and P.G. Windisch. 2012. *Elaphoglossum montanum*, a new fern species of the Atlantic Forest in southern Brazil. American Fern Journal 102(1): 78–82. doi: 10.1640/0002-8444-102.1.78

Melo, L.C. and A. Salino. 2011. New species of *Elaphoglossum* Schott ex J.Sm. (Dryopteridaceae) from Brazil. American Fern Journal 101(4): 261–264. doi: 10.1640/0002-8444-101.4.261

Mickel, J.T. and A.R. Smith. 2004. The pteridophytes of Mexico 88: 1–1055. New York: Memoirs of the New York Botanical Garden.

Moran, R. C. 1995. Dryopteridaceae; pp. 210–224, in: G. Davidse (ed.). Flora Mesoamericana. Vol. I. Psilotaceae–Salviniaceae. México: Universidad Nacional Autónoma de México.

Pott, A., A.K.M. Oliveira, G.A. Damasceno-Junior and J.S.V. Silva. 2011. Plant diversity of Pantanal Wetland. Brazilian Journal of Biology 71(1): 265–273. doi: 10.1590/S1519-69842011000200005

Prado, J., L. Sylvestre, A. Salino, J.P.S. Condack, P.G. Windisch,, R.Y. Hirai, T.E. Almeida and M.A. Kieling-Rubio. 2015. Dryopteridaceae, lista de espécies da flora do Brasil. Jardim Botânico do Rio de Janeiro. Accessed at http://floradobrasil.jbrj.gov.br/jabot/floradobrasil/FB90950, 5 June 2015.

Smith, A.R., K.M. Pryer, E. Schuettpelz, P. Korall, H. Schneider and P.G.Wolf. 2008. Fern classification; pp. 417–467, in: T.A. Ranker and C.H. Haufler (eds). The biology and evolution of ferns and lycophytes. Cambridge: Cambridge University Press.

Tryon, R.M. and A.F. Tryon. 1982. Ferns and allied plants with special reference to tropical America. New York: Springer. 857 pp.

Vasco, A. and R.C. Moran. 2015. *Elaphoglossum*: an electronic monograph. Accessed at http://sweetgum.nybg.org/elaphoglossum/index.php, 2 June 2015.

Windisch, P.G. and M.A. Kieling-Rubio. 2015. *Elaphoglossum*, lista de espécies da flora do Brasil. Jardim Botânico do Rio de Janeiro. Accessed at http://floradobrasil.jbrj.gov.br/jabot/floradobrasil/FB91002, 5 June 2015.

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